

FIG.1

Part 2 - call screening

rd (:tuple Tuple (:account ? :calledBy 1) :duration nil)

received (:account 2 :calledBy 1)

received (:account 3 :calledBy 1)

4	5	6	7
(:account 1 :callTo 2 :status Tuple(:forwardedTo 3)) (:account 2 :calledBy 1)	(:account 3 :calledBy 1) (:account 2 :calledBy 1)		
(:account ? :calledBy 1) (:account 2 :calledBy ?) (:account 2 :calledBy ?) (:account ? :callTo ? :status Busy)	(:account ? :calledBy 1) (:account 2 :calledBy ?) (:account 2 :calledBy ?) (:account ? :callTo ? :status Busy)	(:account ? :calledBy 1) (:account 2 :calledBy ?) (:account 2 :calledBy ?) (:account ? :callTo ? :status Busy)	(:account ? :calledBy 1) (:account 2 :calledBy ?) (:account 2 :calledBy ?) (:account ? :callTo ? :status Busy)
(:account 1 :callTo ? :status ?)	(:account 1 :callTo ? :status ?)	(:account 1 :callTo ? :status ?)	(:account 1 :callTo ? :status ?)
	(:account 2 :calledBy 1)		

Part 4 - forwarding

rd (:tuple Tuple (:account 2 :calledBy ?) :duration nil)

rd (:tuple Tuple (:account ? :callTo 2 :status busy) :duration nil)

received (:account 2 :calledBy 1)

received (:account 1 :callTo 2 :status busy)

out (:tuple Tuple (:account 1 :callTo 2) :status Tuple(:forwardedTo 3)) :duration 3)



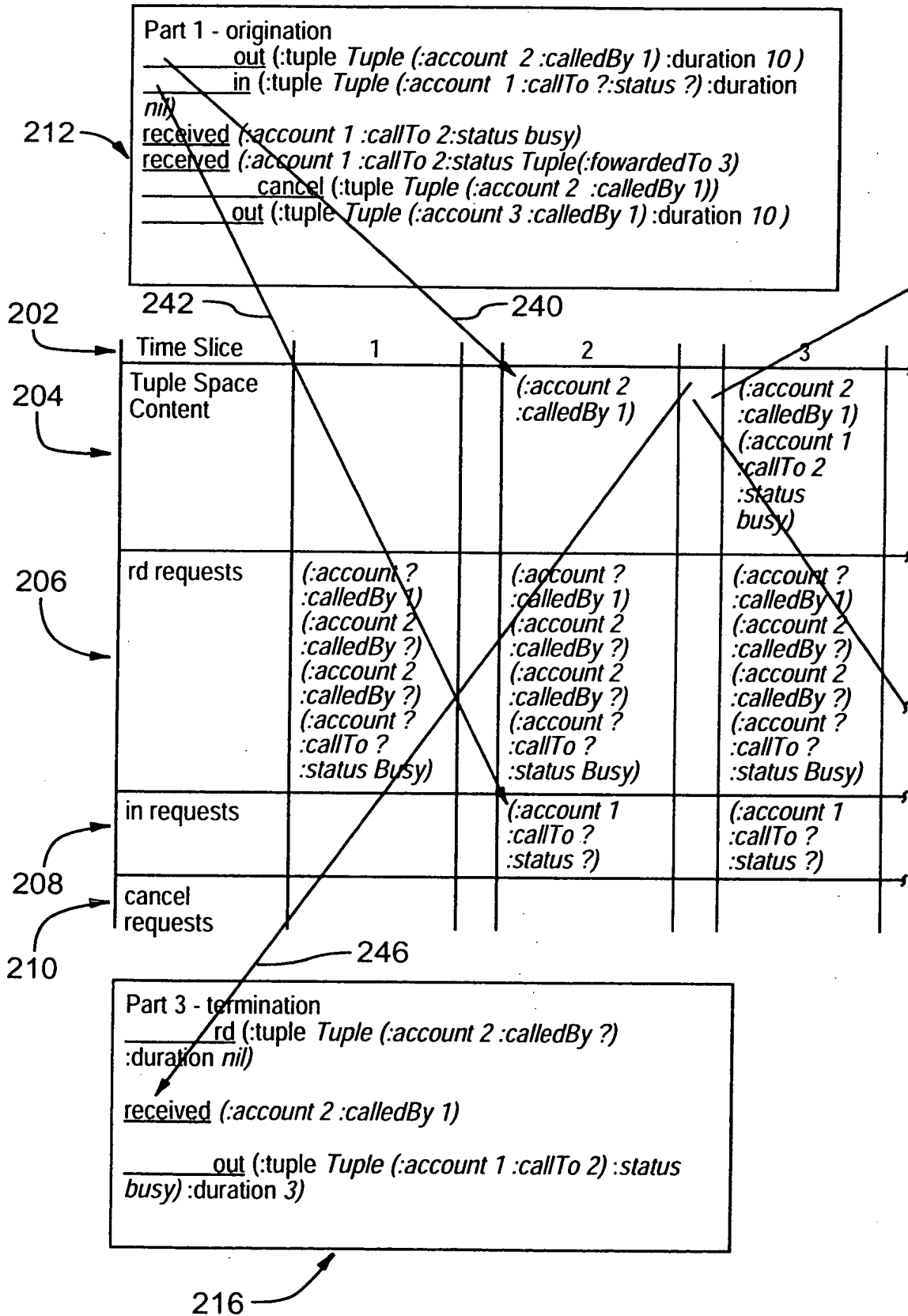


FIG.3A

The diagram illustrates a call screening process. At the top, a box labeled 'Part 2 - call screening' contains the following logic:

```

rd (:tuple Tuple (:account ? :calledBy 1) :duration
nil)
received (:account 2 :calledBy 1)
received (:account 3 :calledBy 1)

```

Arrows indicate the flow of the process:

- Arrow 200 points to the start of the process.
- Arrow 214 points to the 'Part 2 - call screening' box.
- Arrow 244 points to the 'received' conditions.
- Arrow 201 points to the start of the table.

The table below shows the state of the system at different points in time, with columns labeled 4, 5, 6, and 7.

	4	5	6	7
Account 1	(:account 1 :callTo 2 :status Tuple(:forwardedTo 3))	(:account 3 :calledBy 1)		
Account 2	(:account 2 :calledBy 1)	(:account 2 :calledBy 1)		
Account ?	(:account ? :calledBy 1)	(:account ? :calledBy 1)	(:account ? :calledBy 1)	(:account ? :calledBy 1)
Account 2	(:account 2 :calledBy ?)	(:account 2 :calledBy ?)	(:account 2 :calledBy ?)	(:account 2 :calledBy ?)
Account 2	(:account 2 :calledBy ?)	(:account 2 :calledBy ?)	(:account 2 :calledBy ?)	(:account 2 :calledBy ?)
Account ?	(:account ? :callTo ? :status Busy)	(:account ? :callTo ? :status Busy)	(:account ? :callTo ? :status Busy)	(:account ? :callTo ? :status Busy)
Account 1	(:account 1 :callTo ? :status ?)	(:account 1 :callTo ? :status ?)	(:account 1 :callTo ? :status ?)	(:account 1 :callTo ? :status ?)
Account 2		(:account 2 :calledBy 1)		

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Part 4 - forwarding
rd (:tuple Tuple (:account 2 :calledBy?)
 :duration nil)

rd (:tuple Tuple (:account ? :callTo 2 :status
 busy) :duration nil)

received (:account 2 :calledBy 1)

received (:account 1 :callTo 2 :status busy)

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out (:tuple Tuple (:account 1 :callTo 2) :status
 Tuple(:forwardedTo 3)) :duration 3)

FIG. 3B

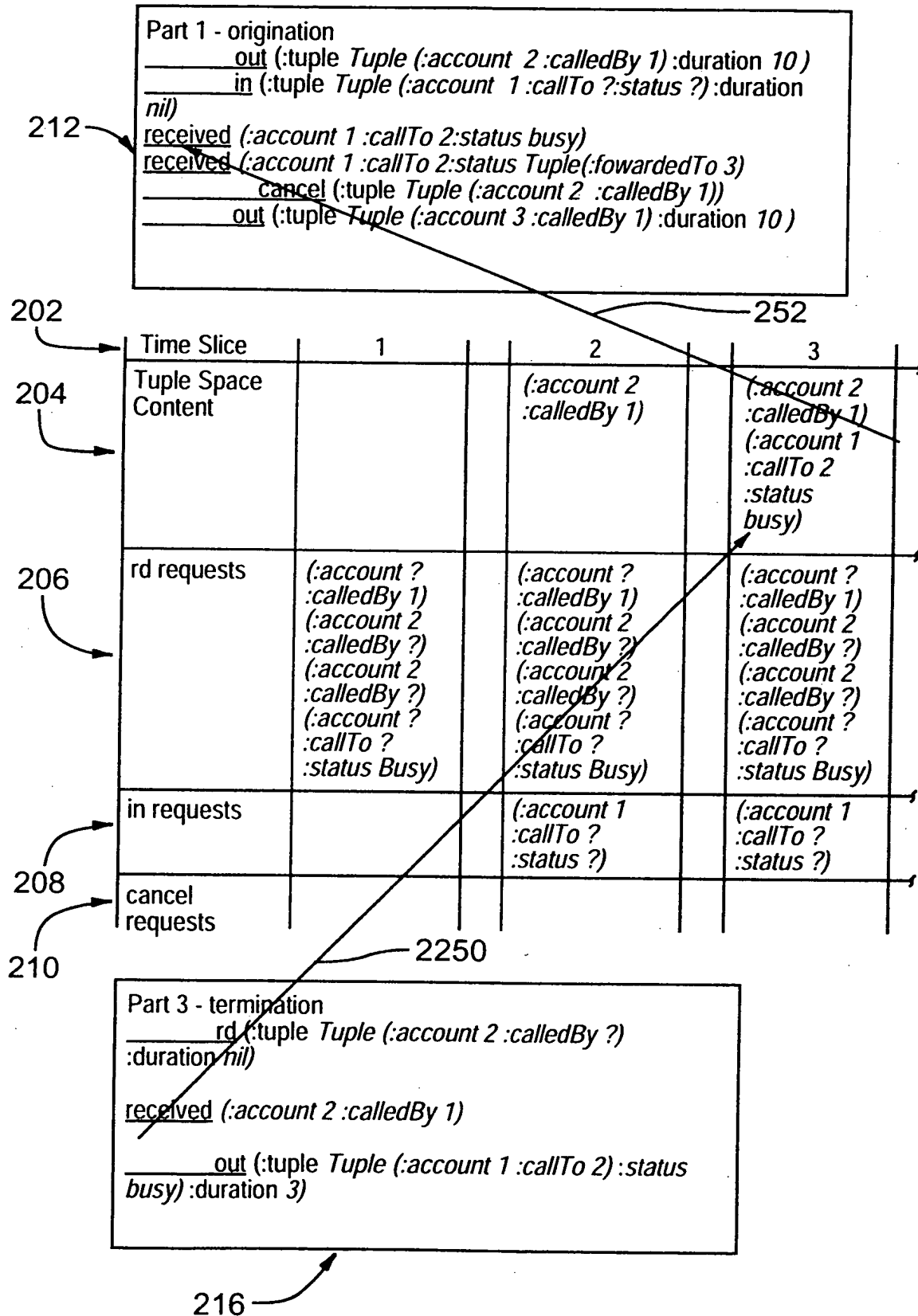


FIG.4A

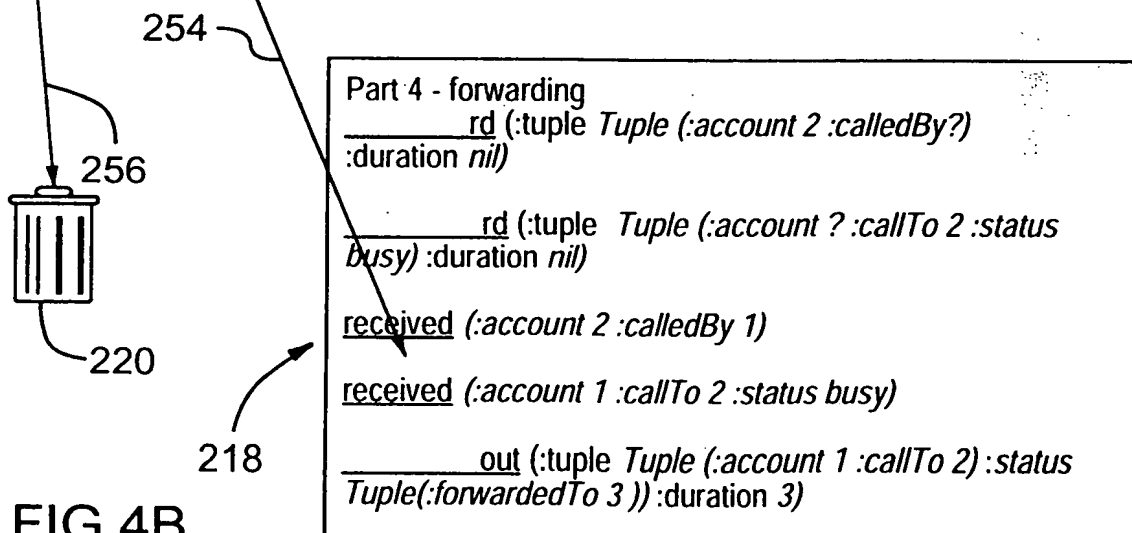
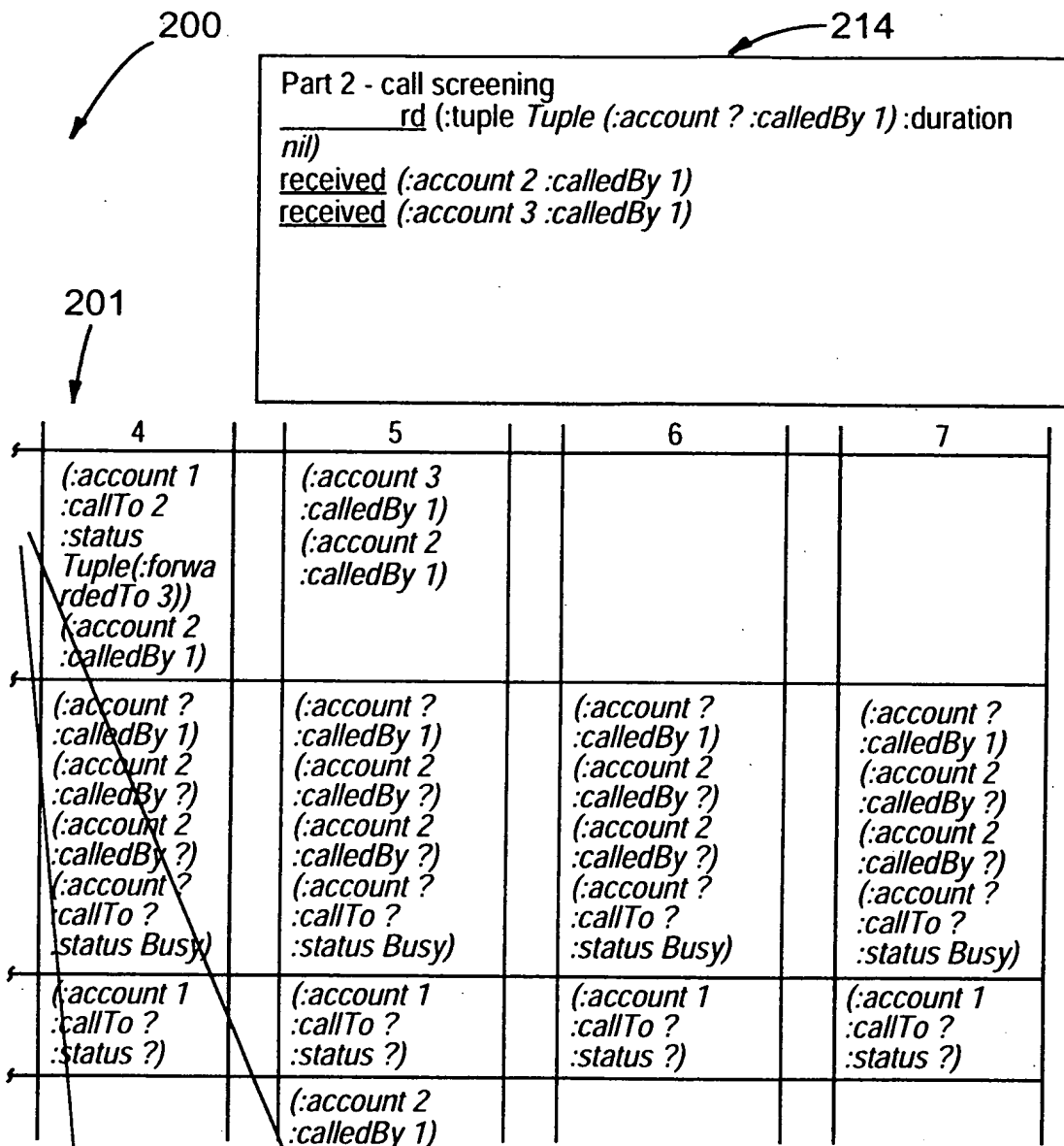


FIG.4B

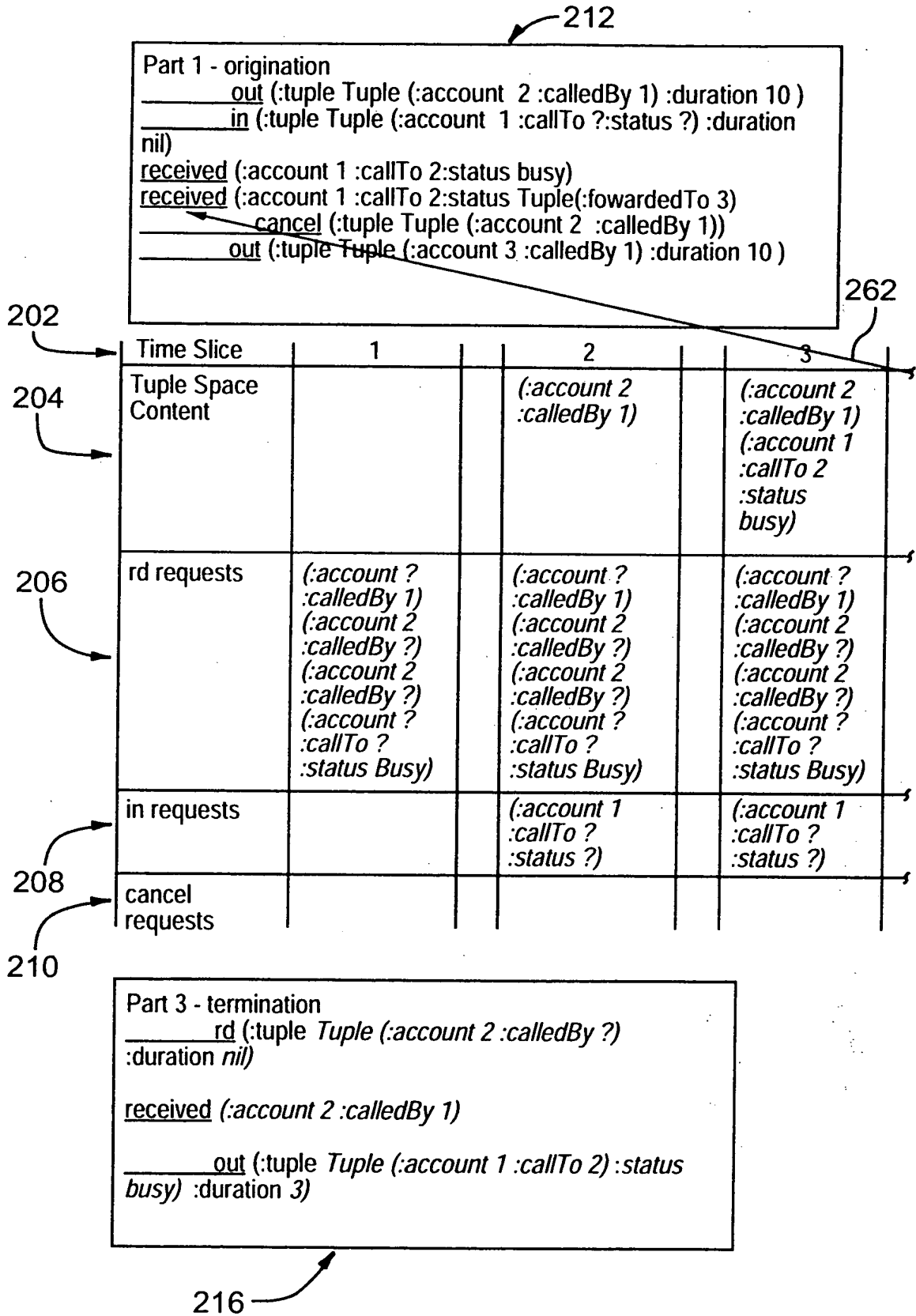


FIG.5A

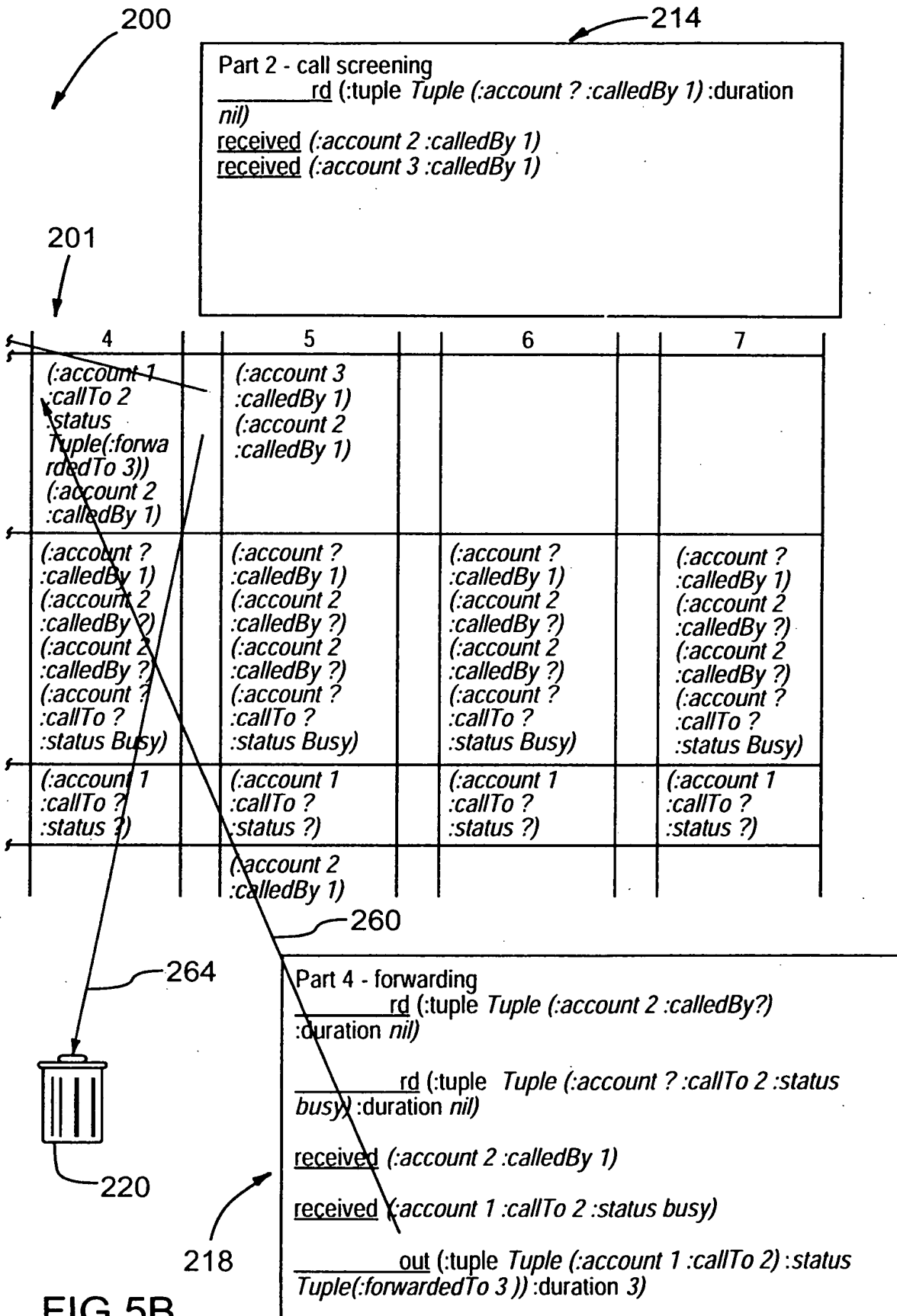


FIG.5B

Part 1 - origination

```
_____ out (:tuple Tuple (:account 2 :calledBy 1) :duration 10 )  
_____ in (:tuple Tuple (:account 1 :callTo ? :status ?) :duration  
nil)  
received (:account 1 :callTo 2 :status busy)  
received (:account 1 :callTo 2 :status Tuple (:forwardedTo 3)  
_____ cancel (:tuple Tuple (:account 2 :calledBy 1))  
_____ out (:tuple Tuple (:account 3 :calledBy 1) :duration 10 )
```

202	Time Slice	1	2	3
204	Tuple Space Content		(:account 2 :calledBy 1)	(:account 2 :calledBy 1) (:account 1 :callTo 2 :status busy)
206	rd requests	(:account ? :calledBy 1) (:account 2 :calledBy ?) (:account 2 :calledBy ?) (:account ? :callTo ? :status Busy)	(:account ? :calledBy 1) (:account 2 :calledBy ?) (:account 2 :calledBy ?) (:account ? :callTo ? :status Busy)	(:account ? :calledBy 1) (:account 2 :calledBy ?) (:account 2 :calledBy ?) (:account ? :callTo ? :status Busy)
	in requests		(:account 1 :callTo ? :status ?)	(:account 1 :callTo ? :status ?)
208	cancel requests			

Part 3 - termination

rd (:tuple *Tuple* (:account 2 :calledBy ?)
:duration *nil*)

received (:account 2 :calledBy 1)

out (:tuple *Tuple* (:account 1 :callTo 2) :status
busy) :duration 3)

FIG.6A

Part 2 - call screening

```

rd (:tuple Tuple (:account ? :calledBy 1) :duration
nil)
received (:account 2 :calledBy 1)
received (:account 3 :calledBy 1)

```

4	5	6	7
(:account 1 :callTo 2 :status Tuple(:forwa rdedTo 3)) (:account 2 :calledBy 1)	(:account 3 :calledBy 1) (:account 2 :calledBy 1)		
(:account ? :calledBy 1) (:account 2 :calledBy ?) (:account 2 :calledBy ?) (:account ? :callTo ? :status Busy)	(:account ? :calledBy 1) (:account 2 :calledBy ?) (:account 2 :calledBy ?) (:account ? :callTo ? :status Busy)	(:account ? :calledBy 1) (:account 2 :calledBy ?) (:account 2 :calledBy ?) (:account ? :callTo ? :status Busy)	(:account ? :calledBy 1) (:account 2 :calledBy ?) (:account 2 :calledBy ?) (:account ? :callTo ? :status Busy)
(:account 1 :callTo ? :status ?)	(:account 1 :callTo ? :status ?)	(:account 1 :callTo ? :status ?)	(:account 1 :callTo ? :status ?)

Part 4 - forwarding

```

rd (:tuple Tuple (:account 2 :calledBy?)
:duration nil)

rd (:tuple Tuple (:account ? :callTo 2 :status
busy) :duration nil)
received (:account 2 :calledBy 1)
received (:account 1 :callTo 2 :status busy)
out (:tuple Tuple (:account 1 :callTo 2) :status
Tuple(:forwardedTo 3)) :duration 3)

```

FIG. 6B

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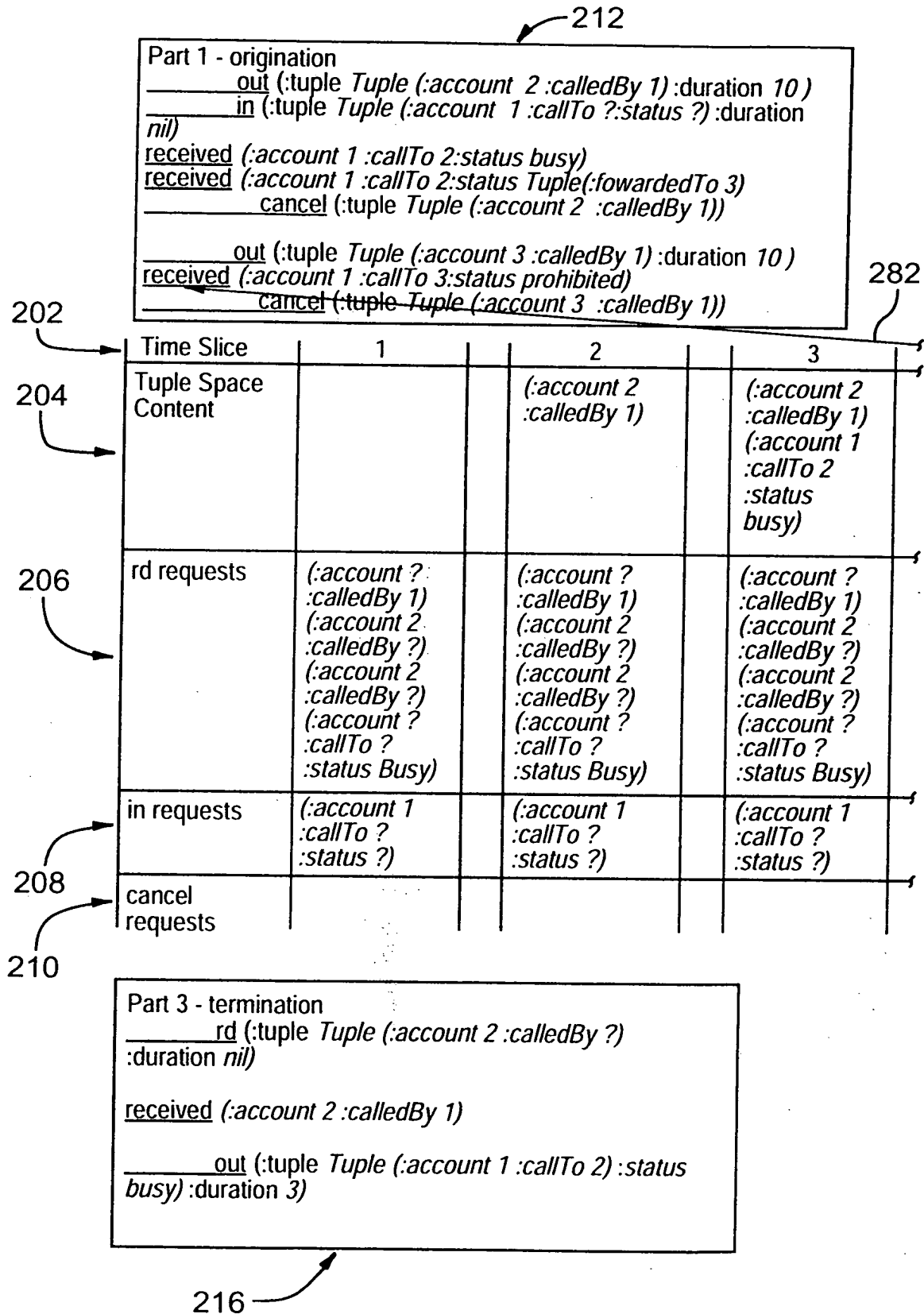


FIG.7A

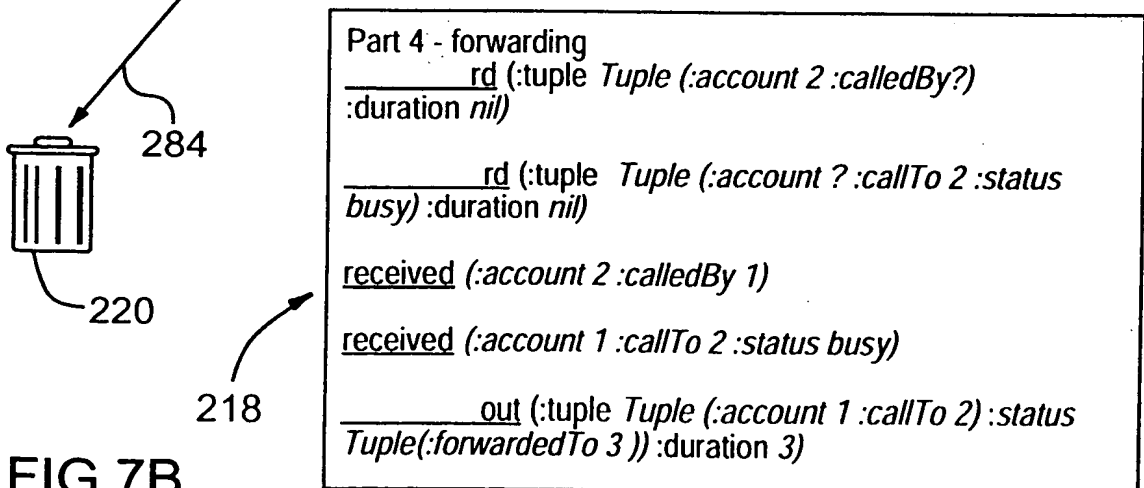
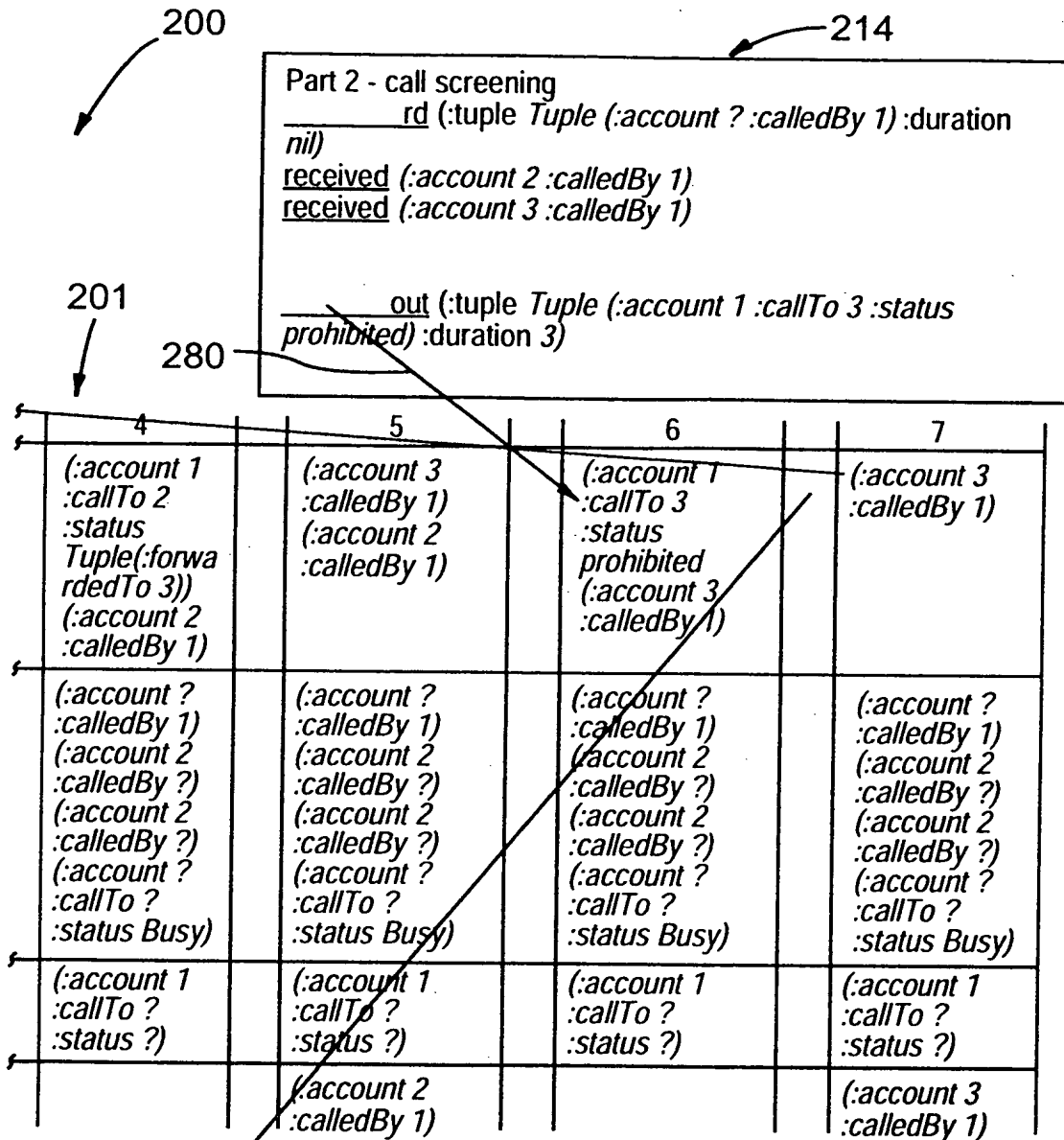


FIG.7B

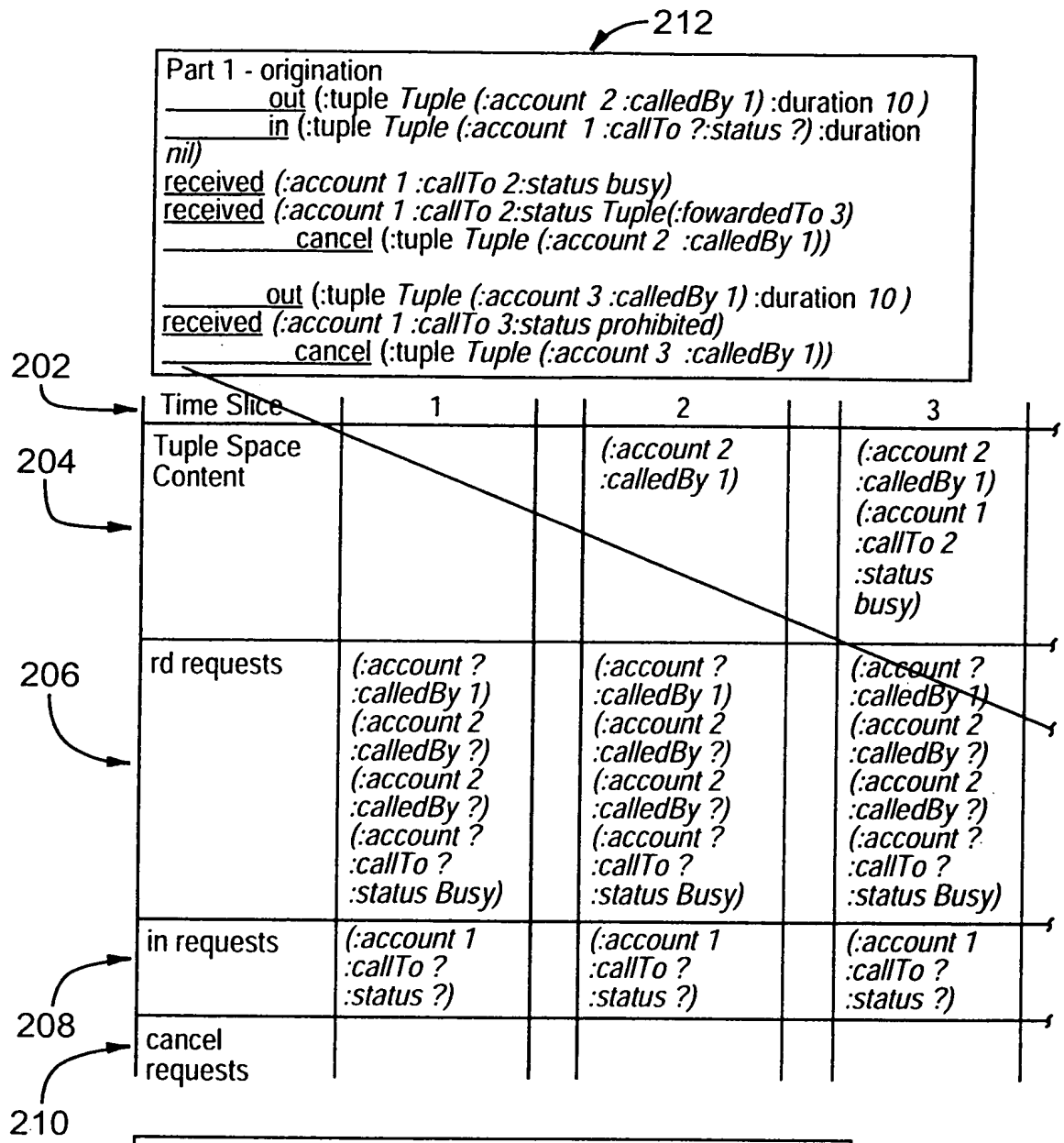
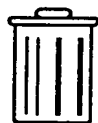
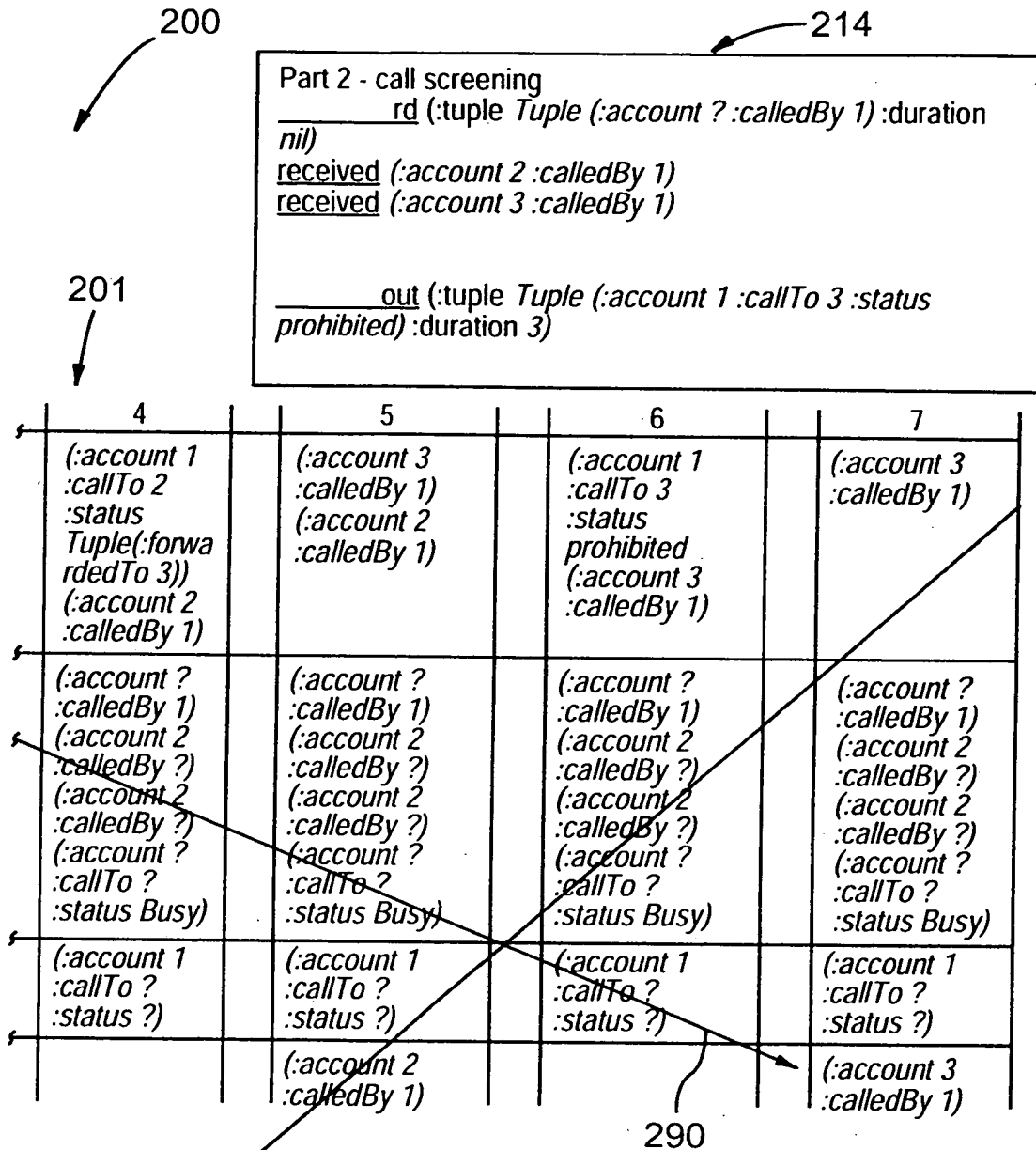


FIG.8A



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Part 4 - forwarding

rd (:tuple Tuple (:account 2 :calledBy?))
:duration nil)

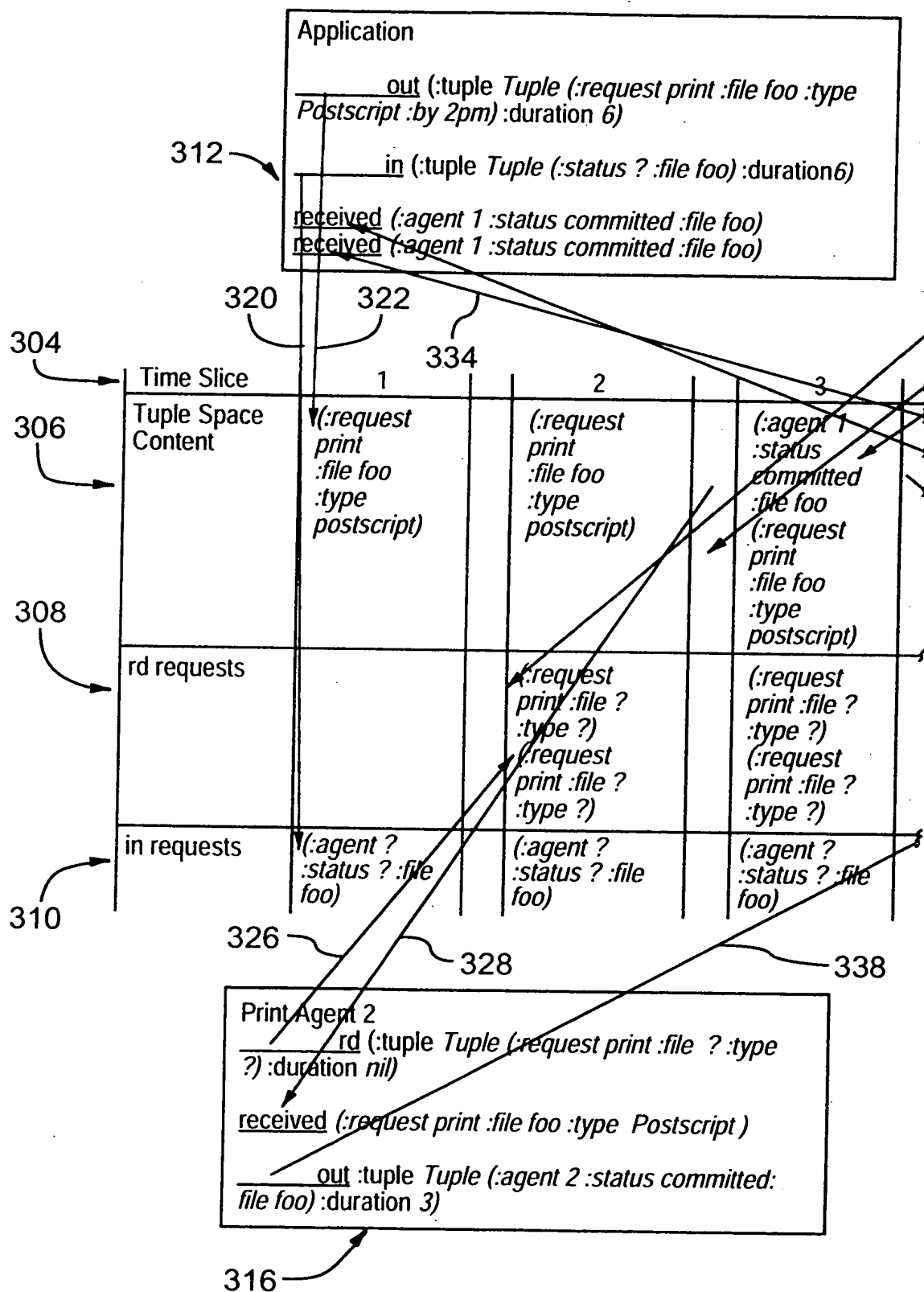
rd (:tuple Tuple (:account ? :callTo 2 :status
busy) :duration nil)

received (:account 2 :calledBy 1)

received (:account 1 :callTo 2 :status busy)

out (:tuple Tuple (:account 1 :callTo 2) :status
Tuple(:forwardedTo 3)) :duration 3)

FIG.8B



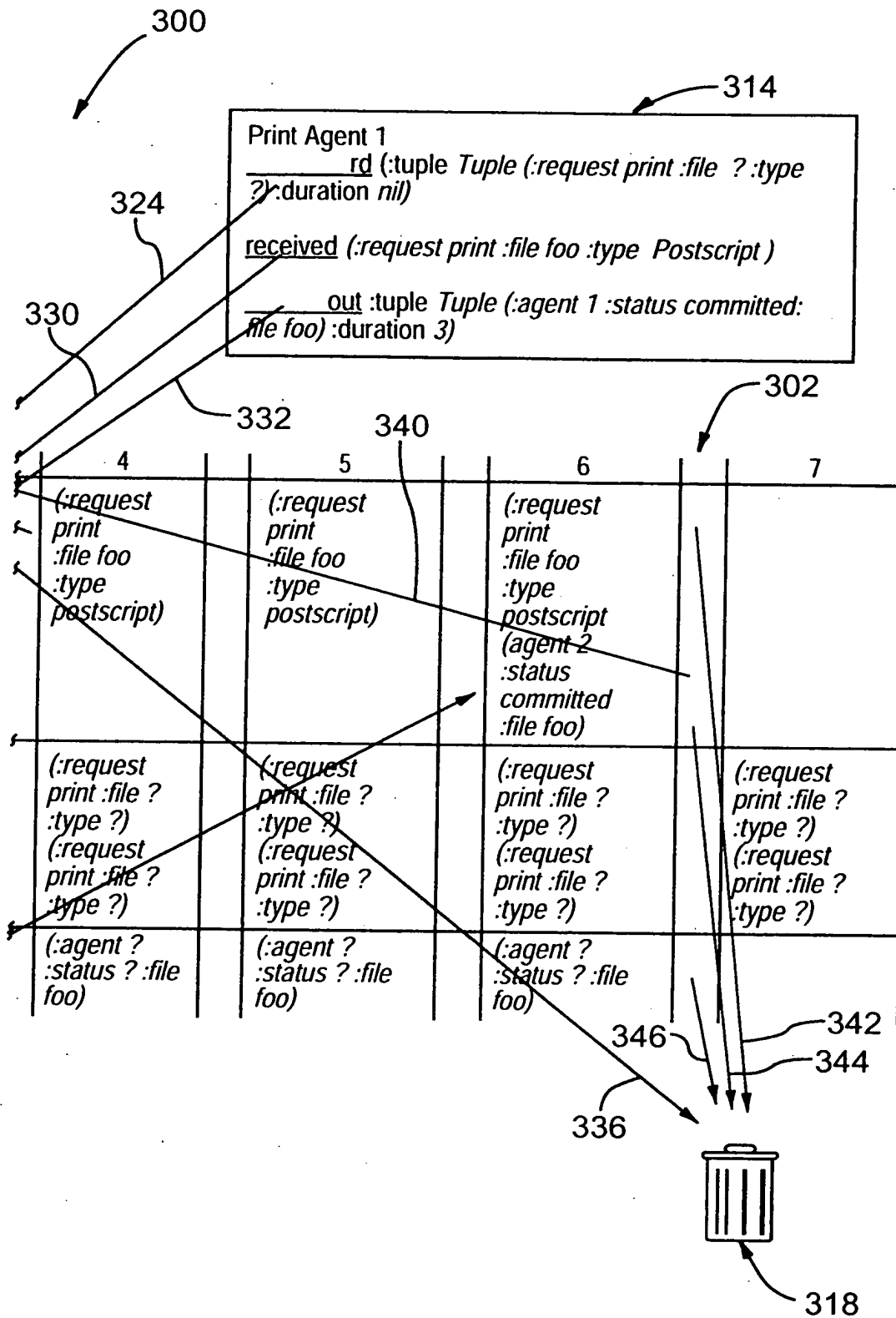


FIG.9B